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09/986,733	11/09/2001	Narendran Ramakrishnan	01640279AA	5865

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EXAMINER

THAI, HANH B

ART UNIT	PAPER NUMBER
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2163

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,733

Applicant(s)

RAMAKRISHNAN, NARENDRAN

Examiner

Hanh B. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 10/24/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The following is a Final Office Action in response to the communication received on October 24, 2005. Independent claim 3 has been amended. Claims 1-2 have been cancelled.

Claims 13-18 are newly added. Claims 3-18 are now pending in this application.

1. Applicant's amendment to claim 3 is acknowledged. Consequently, rejection to claim 3 under 35 U.S.C. 112, second paragraph is withdrawn.

Response to Arguments

2. Applicant's argument (on page 8) regarding mixed-initiative interaction of claim 3 has been considered but is moot in ground(s) of rejection.

3. Applicant's argument (on page 8) regarding partial evaluation of claim 3 has been considered but is not found persuasive.

In response, during the examination, examiner interprets the claim as broadest reasonable interpretation in light of the specification. Robinson discloses the executing conditions that satisfy specific requirement and variable condition to evaluate logical analysis ("False or True") to produce a simplified program (Fig.19-20, Robinson) reads on "partially evaluating the computer program to produce a simplified program."

4. Applicant argues (on page 10): "there is no suggestion or motivation to employ partial evaluation in the methodology of Fratkina et al."

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching,

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suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Fratkina discloses a systematic modeling methodology for information personalization in an information system which automatically adjusts information content, structure, and presentation to an individual user comprising the steps of: modeling information-seeking interaction sequences with the information system wherein each interaction sequence denotes a dialog between the user and the information system (abstract; Fig.10-12 of Fratkina showing information-seeking interaction sequences system including the dialog between the user and the information system); programmatically representing the interaction sequences in a computer program wherein the interaction sequences can be initiated (abstract; summary and Fig.10-12. Fratkina teaching the interaction between a human and a computer program); partially evaluating the computer program to produce a simplified program (Fig.19-20 and [0200]-[0209], Fratkina); and generating a personalized information space for the user in a user interface from the simplified program ([0097], Fratkina).

In the computing art, Robinson discloses the executing condition that satisfy specific requirement and variable condition to evaluate logical analysis ("False or True") to produce a simplified program (Fig.19-20, Robinson).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fratkina to utilize the partial evaluation of Robison to derive the invention as claimed. The motivation of doing so would have been to efficiently provide a simplest task for the end user ([0097], Fratkina).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fratkina et al. (US Pub. 2001/0049688 A1) of record in view of Robison (US 5,805,894) of record and further in view of Brown et al. (US 5,999,904) new cited.

Regarding claim 3, Fratkina discloses a systematic modeling methodology for information personalization in an information system which automatically adjusts information content, structure, and presentation to an individual user comprising the steps of:

- modeling information-seeking interaction sequences with the information system wherein each interaction sequence denotes a possible dialog between the user and the information system, wherein a dialog in the step of modeling is a task-oriented information-seeking activity involving a list of information-seeking aspects comprising structural aspects specified by the user and terminal aspects as responses by the information system to the specified structural aspects (abstract; Fig.10-12 of Fratkina showing information-seeking interaction sequences system including the dialog between the user and the information system);
- programmatically representing the interaction sequences in a computer program wherein the interaction sequences can be initiated by the user (abstract;

summary and Fig.10-12. Fratkina teaching the interaction between a human and a computer program);

- creating a personalization system by partial evaluation ([0200]-[0209], Fratkina); and
- generating a personalized information space for the user in a user interface from the simplified program ([0097], Fratkina), wherein the generating step includes the step of: defining a program variable for each structure aspect, called structure variables (summary; Fig.10-12 and [0327], Fratkina); defining a program variable for each terminal aspect, called terminal variables ([0355]; [0149]-[0159], Fratkina); organizing the set of interaction sequences in terms of conditional elements on structural variables, using constructs provided in a programming language; declaring all structural variables to be parameters in the program; and if an interaction sequence produces values for terminal aspects, assigning values for respective terminal variables in corresponding programmatic representation (summary; Fig.10-12; [0093]-[0097], Fratkina).

Fratkina, however, does not disclose the partial valuation of the computer program to produce a simplified program. Robinson discloses the executing condition that satisfy specific requirement and variable condition to evaluate logical analysis ("False or True") to produce a simplified program (Fig.19-20, Robinson). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fratkina to include the claimed feature as taught by Robison. The motivation of doing so would have been to efficiently provide a simplest task for the end user ([0097], Fratkina).

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Fratkina and Robison combination does not disclose mixed-initiative interaction or out-of-turn interaction. Brown discloses tracking initiative in collaborative dialogue interactions including mixed-initiative interaction (Tables 1-2; summary and col.5, line 1 to col.6, line 3, Brown). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply the mixed-initiative interaction or out-of-turn interaction of Brown into the combination modeling method of Fratkina and Robison to derive the invention as claimed. The motivation of doing so would have been to provide dialogue processing techniques which are capable of differentiating and tracking the interaction task and dialogue initiatives in an efficient manner suitable for use in a variety of practical applications (col.2, lines 59-63, Brown).

Regarding claim 4, Fratkina/Robison/Brown combination further discloses the step of compacting interaction sequences to determine a new set of interaction sequences having fewer states prior to the step of programmatically representing the interaction sequences in a computer program (Fig.10-12, Fratkina).

Regarding claim 5, Fratkina/Robison/Brown combination further discloses the step of creating a personalization system by partial evaluation of the computer program uses a source-to-source transformation engine that simplifies the computer program for static values of some program variables (col.9, lines 19-61, Robinson).

Regarding claim 6, Fratkina/Robison/Brown combination further discloses the step of generating a personalized information space for the user in a user interface is performed by mapping from the simplified program to the information space, in terms of a technology corresponding to the information system (Fig.10-12, Fratkina).

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Regarding claim 7, Fratkina/Robison/Brown combination that the information-seeking interaction of the user is by means of a browser ([0014], Fratkina).

Regarding claim 8, Fratkina/Robison/Brown combination further discloses that the user interface is a browser window displaying an information space and a partial input specification window for facilitating user interaction ([0014], Fratkina).

Regarding claim 9, Fratkina/Robison/Brown combination further discloses that the browser supports a browsing hierarchy, said step of modeling being performed using a nested programmatic model (abstract and summary, Fratkina).

Regarding claim 10, Fratkina/Robison/Brown combination further discloses that the user interface comprises two windows, a first window allowing the user to proceed with an interaction along lines initiated by the information system and a second window allowing the user to take an initiative and personalize the interaction by specifying some aspect out-of-turn ([0091]-[0097], Fratkina).

Regarding claim 11, Fratkina/Robison/Brown combination further discloses the step of partially evaluating the program with respect to values for structural program variables ([0200]-[0209], Fratkina).

Regarding claim 12, Fratkina/Robison/Brown combination further discloses the step of representing the information-seeking aspects as values for structural program variables; performing a partial evaluation with respect to the structural program variables (summary and Fig.10-12, Fratkina).

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Regarding claim 13, Fratkina/Robison/Brown combination further discloses the step of repeating the partial evaluating" and generating" steps after every user-computer interaction (summary and Table1, Brown).

6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 5,999,904) in view of Schmitt (US 5,983,220) new cited references.

Regarding claim 14, Brown discloses a method for computer interaction with a user that supports mixed-initiative interaction between the user and the computer (summary, Brown), the method comprising the steps of:

a) employing a computer program to model interaction sequences between the user and the computer (Tables 1-2; summary and col.5, line 1 to col.6, line 3, Brown),

b) presenting an information space based on the computer program, and a dialog input mechanism for the user (abstract; Tables 1-2; summary and col.5, line 22-41, Brown);

c) receiving dialog input from the user via the dialog input mechanism, wherein the dialog input is permitted to be out-of-turn (summary and col.5, line 1 to col.6, line 3, Brown);
and

e) altering the information space based on the simplified program (abstract; Tables 1-2; summary and col.5, line 22-41, Brown).

Brown, however, does not disclose d) partially evaluating and simplifying the computer program based on the partial evaluation. Schmitt, on the other hand, discloses the evaluation system with user interaction and partially evaluating to eliminate the redundant data items and narrow the set of selected items of interest (abstract; summary; col.6, line 45 to col.7, line 30 and col. 13, lines 54-62, Schmitt) that reads on the claimed partially evaluating and simplifying the

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computer program based on the partial evaluation. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Brown to include the claimed features as taught by Schmitt. The motivation of doing so would have been to provide dialogue processing techniques which are capable of differentiating and tracking the interaction task and dialogue initiatives in an efficient manner suitable for use in a variety of practical applications (col.2, lines 59-63, Brown).

Regarding claim 15, Brown/Schmitt combination further discloses wherein steps (b), (c), (d), and (e) are performed a plurality of times.

Regarding claim 16, Brown/Schmitt combination further discloses wherein step (d) is performed every time the user inputs dialog to the computer (Tables 1-2; summary and col.5, line 22-41, Brown).

Regarding claim 17, Brown/Schmitt combination further discloses wherein the user interface comprises two windows, a first window allowing the user to proceed with an interaction along the lines initiated by the information system and a second window allowing the user to take an initiative and personalize the interaction by specializing some aspect out-of-tum, wherein partial evaluation is performed on dialog input in the second window (summary and col.5, line 1 to col.6, line 3, Brown).

Regarding claim 18, Brown/Schmitt combination further discloses wherein the dialog input is off-topic (summary and Table 1, Brown).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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1. Hayes-Roth (US Pub. 2003/0028498 A1) discloses customizable agent.
 2. Budzinski (US Pub. 2004/0107088 A1) discloses memory system for storing and retrieving experience and knowledge with natural language utilizing state representation data, word sense numbers, function codes, directed graphs and/or context memory.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh B. Thai whose telephone number is 571-272-4029. The examiner can normally be reached on 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh B Thai
Examiner
Art Unit 2163

January 6, 2006



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